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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,586	09/18/2003	Terry L. Gilton	MICRON.272A	9170

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EXAMINER

NGUYEN, SANG H

ART UNIT	PAPER NUMBER
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2886

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/06/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/06/2007.

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Office Action Summary	Application No. 10/666,586	Applicant(s) GILTON, TERRY L.	
	Examiner Sang Nguyen	Art Unit 2886	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/26/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's response to amendment on 01/12/07 has been entered. It is noted that the application contains claims 1-24 and claims 25-51 have been canceled by the amendment on 11/28/05.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

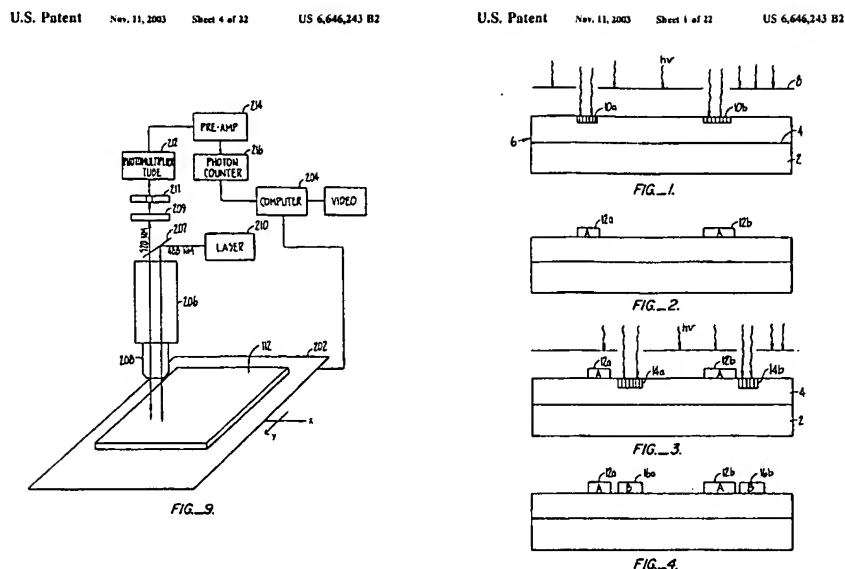
A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 6, 11-13, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Pirrung et al (U.S. Patent No. 6,646,243).

Regarding claim 1; Pirrung et al discloses a method and device (figure 9 and abstract) for detecting a particle on a substrate (112 of figure 9), the method comprising: contacting the integrated device substrate (112 of figure 8a) with a monomer (col.3 lines 7-11 and 58-65; and col.5 line 65-col.6 line 9), wherein the particle catalyzes the polymerization of the monomer (col.7 lines 8-17 and col.10 lines 51-67) is disposed on the substrate (112 of figure 8a), and

detecting the particle using a particle counter (i.e., a photon counter [216 of figure 9] coupled to a computer [204 of figure 9] and see col.3 line 66 to col.4 line 16; and col.20 line 15 to col.21 line 15; and col.24 lines 32-63). See figures 1-20.



Regarding claim 6; Pirrung et al discloses the particle counter (216, 204 of figure 9) detects a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization (col.3 line 66 to col.4 line 16; and col.16 lines 15-24 and 53-60).

Regarding claim 11; Pirrung et al discloses the substrate (112 of figure 9) is contacted with plurality of monomers [i.e., a first monomer and second monomer (col.3 lines 1-24)].

Regarding claims 12-13; Pirrung et al discloses a plurality of monomers ([i.e., a first monomer and second monomer (col.3 lines 1-24] contact the substrate (112 of figure 9) simultaneously or/and sequentially (col.8 line 62 to col.9 line 55).

Regarding claim 24; Pirrung et al discloses the substrate (112 of figure 9) is radiated with electromagnetic radiation (col.7 lines 35-53).

Claim Rejections - 35 USC § 103

Art Unit: 2886

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Berger et al (U.S. Patent No. 4,967,095).

Regarding claims 2 and 4-5; Pirrung et al discloses all of features of claimed invention except for the particle counter detects a property selected from the group consisting of number of particles, sizes of the particles, positions of the particles, and combinations thereof, wherein the particle counter is a laser scanner for detecting particles optically. However, Berger et al teaches that it is known in the art to provide method of detecting particles on the surface comprising the particle counter (i.e., a particle detector (col.1 lines 46-50 and col.2 lines 43-45) detects a property selected from the group consisting of number of particles (col.6 line 55), sizes of the particles, positions of the particles, and combinations thereof (col.col.6 lines 12-19 and 45-48), wherein the particle counter is a laser scanner for detecting particles optically (col.5 line 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the particle counter detects a property selected from the group consisting of number of particles, sizes of the particles, positions of the particles, and combinations thereof, wherein the particle counter is a laser scanner for detecting particles optically as taught by Berger et al for the purpose of detecting particles on the surface more accuracy.

Claims 3 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Yamauchi et al (U.S. Patent No. 4,965,454).

Regarding claim 3; Pirrung et al discloses all of features of claimed invention except for the particle counter is capable of detecting particles on both sides of the substrate without unmounting the substrate. However, Yamauchi et al teaches that it is

Art Unit: 2886

known in the art to provide method of detecting particle comprising the particle counter (considered to be a laser [14 of figure 1], scanner mirrors [20a, 20b of figure 1], and two detectors [203a, 203b of figure 1]) is capable of detecting particles (5a, 5b of figure 1) on both sides of the substrate (102 of figure 1) without unmounting the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the particle counter is capable of detecting particles on both sides of the substrate without unmounting the substrate as taught by Yamauchi et al for the purpose of detecting particles on both of the surface substrate more accuracy.

Regarding claim 14; Pirrung et al discloses all of features of claimed invention except for the particle is a metal. However, Yamauchi et al teaches that it is known in the art to provide method of detecting particle comprising the particle is a metal (col.1 lines 50-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the particle is a metal as taught by Yamauchi et al for the purpose of detecting particles on both of the surface substrate more accuracy.

Regarding claim 15; Pirrung et al and Yamauchi et al discloses all of features of claimed invention except for the metal is a copper. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Pirrung et al with the metal is copper, since it has been held to be within the general skill of a worker in the art to select a known

Art Unit: 2886

material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claims 16-17; Pirrung et al discloses all of features of claimed invention except for the substrate is single silicon wafer. However, Yamauchi et al teaches that it is known in the art to provide method of detecting particle comprising the substrate is a single silicon wafer (col.1 lines 5-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the substrate is single silicon wafer as taught by Yamauchi et al for the purpose of detecting particles on both of the surface substrate more accuracy.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Tote et al (U.S. Patent No. 4,965,454).

Regarding claims 7-8; Pirrung et al discloses all of features of claimed invention except for the composition of the particle is identified by the polymerization rate of the monomer. However, Tote et al teaches that it is known in the art to provide the composition of the particle is identified by the polymerization rate of the monomer (col.6 lines 41-60 and col.13 line 62 to col.14 line 26 and see figures 1 and 8-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the composition of the particle is identified by the polymerization rate of the monomer as taught by Tote et al for the purpose of detecting particles on the surface with more accuracy.

Regarding claims 9-10; Pirrung et al discloses all of features of claimed invention except for the monomer is polymerized by a plurality of particle types. However, Tote et al teaches that it is known in the art to provide the monomer is polymerized by a plurality of particle types (col.24 lines 24-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the monomer is polymerized by a plurality of particle types as taught by Tote et al for the purpose of detecting particles on the surface with more accuracy.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Dower et al (U.S. Patent No. 7,056,666).

Regarding claim 18; Pirrung et al discloses all of features of claimed invention except for the monomer is in a vapor phase. However, Dower et al teaches that it is known in the art to provide the monomer is in a vapor phase (col.8line 65 to col.9 line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the monomer is in a vapor phase as taught by Dower et al for the purpose of detecting particles on both of the surface substrate more accuracy.

Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Tanaka et al (U.S. Patent No. 5,100,762).

Regarding claims 19-20; Pirrung et al discloses all of features of claimed invention except for the monomer is an alkene, wherein the alkene is selected from the group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile. However, Tanaka et al teaches that it is known in the art to provide the monomer is an alkene, wherein the alkene is selected from the group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile (col.12 lines 4-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the monomer is an alkene, wherein the alkene is selected from the group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile as taught by Tanaka et al for the purpose of good capacity to form homogeneous films and high sensitivities at a specific wavelength allowing efficient development.

Regarding claim 21; Pirrung et al and Tanaka et al discloses all of features of claimed invention except for the monomer is selected from the group consisting of aniline and thiophene. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Pirrung et al with the monomer is selected from the group consisting of aniline and thiophene, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 22; Pirrung et al discloses all of features of claimed invention except for further comprising an initiator. However, Tanaka et al teaches that it is known

Art Unit: 2886

in the art to provide further comprising an initiator (col.12 line 65 to col.13 line 7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with an initiator as taught by Tanaka et al for the purpose of good capacity to form homogeneous films and high sensitivities at a specific wavelength allowing efficient development.

Regarding claim 23; Pirrung et al and Tanaka et al discloses all of features of claimed invention except for the initiator is benzyl bromide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Pirrung et al with the initiator is benzyl bromide, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Response to Arguments

Applicant's arguments filed 01/12/07 have been fully considered but they are not persuasive. Applicant's argued, pages 5-7, that Pirrung et al do not teach or suggest "contacting the substrate with monomer, wherein a particle that catalyzes the polymerization of a monomer", and the "detecting the particle using a particle counter" as recited in claim 1. Also, Applicant's argued that, 7-12, Pirrung et al is not analogous art. Pirrung, Berger, Yamauchi, Cote, Dower, and/or Tanaka "the rejection fails to establish *prima facie* obviousness and not combine or suggestion or motivation as recited in claims 1-24.

This argument is not persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that the Pirrung et al does teach or suggest the "contacting the substrate with monomer, wherein a particle that catalyzes the polymerization of a monomer", and the "detecting the particle using a particle counter" as recited in claim 1. As stated in previous Office action, Pirrung et al teaches a method comprising the step of contacting the substrate (112 of figure 8a) with a monomer (col.3 lines 7-11 and 58-65; and col.5 line 65-col.6 line 9, wherein the particle catalyzes the polymerization of the monomer (col.7 lines 8-17 and col.10 lines 51-67), and detecting the particle using a particle counter (i.e., a photon counter [216 of figure 9] coupled to a computer [204 of figure 9] and see col.3 line 66 to col.4 line 16; and col.20 line 15 to col.21 line 15; and col.24 lines 32-63).

In response to applicant's argument that Pirrung et al reference is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the

Art Unit: 2886

claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Pirrung et al teaches all of features of the claimed invention (indicated above) by using method and apparatus for detecting particles on the substrate with plurality of monomers.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Pirrung, Berger, Yamauchi, Cote, Dower, and/or Tanaka references have the same function or result for the purpose of detecting or measuring a particle on a surface of a substrate by detector device. Therefore, the references are considered in combination, the recitation of the claims would have been obvious suggested.

For the reasons set forth above the arguments, it is believed that the rejection of the claims 1-24 under 35 U.S.C 102 (a) and 103 (a) is proper.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mosbach et al (5994110) discloses method for direct synthesis of

Art Unit: 2886

compounds; Goldberg et al (6706875) discloses substrate preparation process; or Kohara et al (5135, 068) discloses coated particle;

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifu Chowdhury can be reached on (571) 272-2800 ext. 86. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2886

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 30, 2007


Sang H. Nguyen
Primary Patent Examiner
Art Unit 2886